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References and Notes

1. K. E. Fabricius, Y. Benayahu, A. Genin, *Science* **268**, 90 (1995).
2. M. R. Landry, W. K. Peterson, V. L. Fagerness, *Mar. Ecol. Prog. Ser.* **115**, 55 (1994); M. R. Landry, C. J. Lorenzen, W. K. Peterson, *ibid.*, p. 73; W. T. Peterson, S. J. Painting, L. Hutchings, *J. Plankton Res.* **12**, 259 (1990).
3. Colony, 0.555 ± 0.270 gram of AFDW per milliliter; conversion factor for carbon/chlorophyll a, 60; respiration, 6.46 ± 1.32 milligrams of carbon per gram of AFDW [K. E. Fabricius, A. Genin, Y. Benayahu, *Limnol. Oceanogr.* **40**, 1290 (1995)]. Epifluorescent microscopy confirmed that algae or epizoon did not adhere to the surface of colonies.



Diffusion to a Different Drummer

In their interesting report "NMR studies of single-file diffusion in unidimensional channel zeolites" (3 May, p. 702), Volka

Kukla *et al.* refer to the application of single-file diffusion to ion transport in membrane channels. But there appears to be an important difference between these processes, at least in the relatively well-characterized case of the ion channel gramicidin. In zeolites, vacancies are assumed to effectively diffuse through a string of molecules independently (1). The pore of gramicidin contains about 10 molecules in single file, including waters and perhaps one or two ions (2). Molecular dynamics simulations suggest that the movements of ions and waters within the pore are synchronized (2, 3). Under these conditions, a standard diffusion coefficient governs the long-time behavior of the center of mass mean square displacement (4)

$$\langle z^2(t) \rangle = 2Dt$$

where z is the spatial coordinate along the pore axis, t is time, and D is the diffusion coefficient of the pore contents.

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References

1. J. Kärgen, M. Petzold, H. Pfeifer, S. Ernst, J. Weitkamp, *J. Catal.* **136**, 283 (1992).
2. B. Roux, B. Prod'homme, M. Karplus, *Biophys. J.* **68**, 876 (1995).
3. P. C. Jordan, *ibid.* **58**, 1133 (1990).
4. S.-W. Chiu, J. A. Novotny, E. Jakobsson, *ibid.* **64**, 98 (1993).



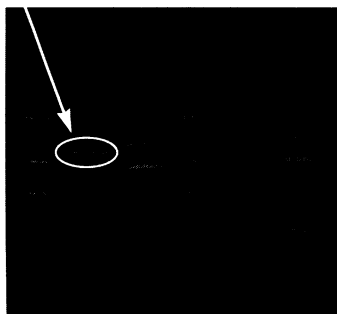
Extinction Rates

In their 21 July 1995 article, "The future of diversity" (*Frontiers in biology: Ecology*, p. 347), Stuart L. Pimm *et al.* incorrectly attribute to me the assertion that "one (or a few) species per year" are going extinct. They go on to say that "Simon's claims . . . are not scientifically credible." In the very book they cite is the following disclaimer (1, p. 206):

It is entirely inaccurate to say, as Mr. Myers does [the book is a debate between Norman Myers and me], that I have made any estimates of extinction rates. I have never written or spoken such a sentence.

My position is as different as can be from what Pimm *et al.* and others repeatedly say I said, to wit: There *only is evidence* for one or a few species a year going extinct, mainly birds or mammals. Of course, many other species

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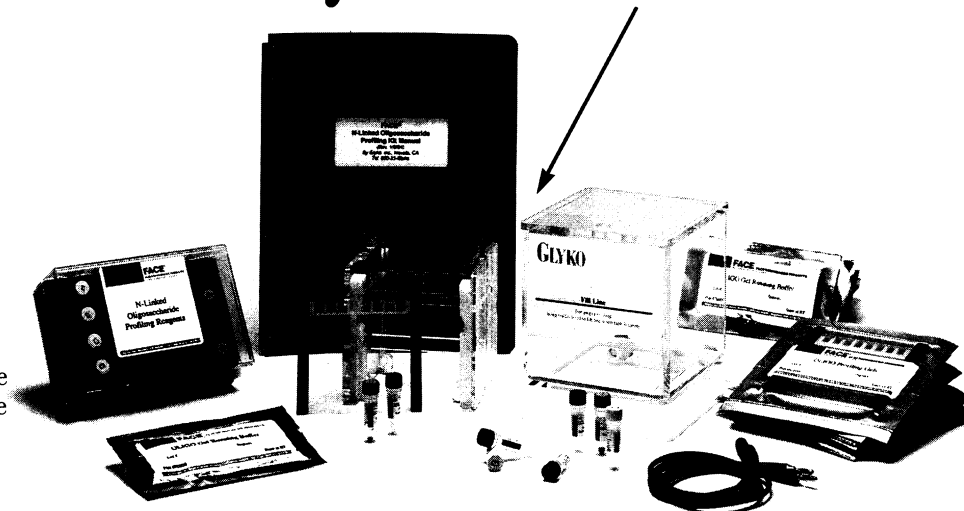
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